

In th Claim

Please cancel claims 1-38 and add new claims 39-50

Claims 1-38 (cancelled)

39. (new) A semiconductor processing method of electrochemical-mechanical removing at least some of a conductive material from over an upper surface of a semiconductor substrate comprising:

displacing a polishing operation location across the upper surface of the substrate from a central region of the substrate toward a periphery of the substrate and not displacing the polishing operation location from the periphery to the central region, the polishing operation location being defined by a location of a polishing pad relative to a surface of the substrate; and

rotating both the polishing pad and the substrate separately from the displacement.

40. (new) The method of claim 39 wherein the polishing pad is rotated in counter-rotary manner relative to the rotation of the substrate.

41. (new) The method of claim 39 wherein the polishing pad comprises a flexible material and has peripheral edges that are raised relative to a center of the polishing pad.

42. (new) The method of claim 39 wherein a polishing surface of the polishing pad extends over only a portion of the surface of the substrate.

43. (new) A semiconductor processing apparatus to electrochemical-mechanical remove at least some of a conductive material from over an upper surface of a semiconductor substrate, the apparatus comprising:

a rotatable semiconductor substrate support;

a rotatable polishing pad sufficiently spaced apart from the substrate support to allow the substrate therebetween during electrochemical-mechanical removal, the polishing pad being displaceable separately from rotation and across the upper surface of the substrate from a central region of the substrate toward a periphery of the substrate, the polishing pad having a polishing surface that abrasively contacts only a portion of the conductive material, the portion of the conductive material in abrasive contact with the polishing surface being defined as a polishing operation location, and the polishing pad extending over the conductive material to cover more of the conductive material than the polishing operation location;

at least one first electrical contact in electrical connection with an outermost edge of only an outer peripheral portion of the conductive material;

at least one second electrical contact in electrical connection with the polishing surface; and

a power source through which the first and second electrical contacts are in electrical connection, the power source and first and second electrical contacts defining a circuit that extends through the conductive material.

44. (new) The apparatus of claim 43 wherein the polishing pad is rotatable in counter-rotary manner relative to the rotation of the substrate.

45. (new) The apparatus of claim 43 wherein the polishing pad comprises a flexible material and has peripheral edges that are raised relative to a center of the polishing pad.

46. A semiconductor processing method of removing conductive material, comprising:

providing a semiconductor wafer having a conductive material thereover, the wafer comprising an upper surface and an outer periphery around the upper surface, the conductive material extending across the upper surface of the wafer and to about the periphery;

electrochemically removing at least some of the conductive material with a polishing pad having a surface in abrasive contact with only a portion of the conductive material;

displacing the polishing pad across the upper surface of the wafer during the removing, the displacing being only from a central region of the wafer surface toward the periphery of the wafer;

rotating at least one of the polishing pad and the wafer separately from the displacement; and

providing an electrical circuit through at least a portion of the conductive material during the removing, the circuit extending between at least one second electrical connection in electrical contact with a polishing surface of the polishing pad and at least one first electrical connection in direct electrical contact with conductive material only at the periphery.

47. (new) The method of claim 46 wherein the polishing pad is displaced circularly around the central region to define rings which progress increasingly outward toward the periphery of the wafer.

48. (new) The method of claim 46 comprising rotating both the polishing pad and the wafer where the polishing pad is rotated in counter-rotary manner relative to the rotation of the wafer.

49. (new) The method of claim 46 wherein the polishing pad comprises a flexible material and has peripheral edges that are raised relative to a center of the polishing pad.

50. (new) The method of claim 46 wherein a polishing surface of the polishing pad extends over only a portion of the surface of the substrate.